

# MASSACHUSETTS WETLANDS RESTORATION NEWS

The Newsletter of the Partnership to Restore Massachusetts Wetlands

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Wetlands Restoration & Banking Program  
Executive Office of Environmental Affairs

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## ANNUAL MEETING SET FOR OCTOBER 19, 1996

**Mark your calendar now!** *The Second Annual Meeting of the Partnership to Restore Massachusetts Wetlands, sponsored by the Wetlands Restoration & Banking Program, will be held on Saturday, October 19, 1996, from 9 AM to 4 PM at the University of Massachusetts Medical Center in Worcester.*

**Program:** While the First Annual Meeting held in June 1995 focused on developing a coordinated approach to wetlands restoration in the state, the agenda for this year's meeting is intended to promote and support restoration projects directly through case examples and skill-building sessions. Workshop topics will include: fundraising, evaluating the restoration potential of a site, obtaining permits, mobilizing volunteers, project design considerations, and developing a post-restoration monitoring program. Both coastal and inland case-studies will be presented. Morning coffee and lunch will be available in the Medical Center cafeteria directly adjacent to the conference area.

**Registration:** Registration is free but is limited to 225 on a first-come basis. Please return the form on page 4 as soon as possible to reserve your place! Registration confirmation (or regrets), directions, and a full agenda will be mailed to registrants. **Display Space:** Free display space is available for companies, agencies, and organizations on a first-come basis. Call WRBP at (617) 727-9800 x213 to reserve.

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### GROWetlands Supports Local Restoration Efforts

WRBP has launched a new initiative called "GROWetlands" which stands for Groups Restoring Our Wetlands. From its inception, WRBP has recognized the great need and potential for wetlands restoration work to be carried out at the local level by an environmentally concerned and active citizenry. While WRBP is taking on a handful of projects on its own initiative, the program is focusing its efforts on identifying potential restoration sites and providing incentives and support for local project sponsors.

GROWetlands is modelled after the very successful

Adopt-a-Stream initiative implemented by the state's Riverways Program which supports the efforts of citizen

groups to conduct stream improvement projects. GROWetlands sponsors start by filling out a simple project nomination form. WRBP arranges for the site to be evaluated by one of its Wetlands Restoration Assessment Teams (WetRATs) of experts to determine its restoration potential. (See article on page 2.) WRBP provides a site evaluation report and a list of potential funders. Together, the sponsor and WRBP prepare a Work Plan for the site. In the future, WRBP hopes to be able to provide small incentive grants to attract restoration projects to the GROWetlands program.

For more information on GROWetlands or to nominate a site for the program, call WRBP at (617) 727-9800

x213.

## WRBP "WetRATs"

Ralph Tiner, WRBP Wetland Scientist, is organizing Wetlands Restoration Assistance Teams (WetRATs) of wetland experts to support wetlands restoration projects.

About two dozen scientists have already signed up, but more are needed. Initially, these volunteer teams will perform preliminary evaluations of wetlands restoration sites or collect information on reference wetlands. As more projects get underway, the teams may become involved in project design and monitoring. WetRAT members may specify their time commitment and geographic area. If you wish to participate, please call WRBP at (617) 727-9800 x213.

## WATERSHED WETLANDS RESTORATION PLANNING

### Guidance Document Finalized

WRBP was established on the premise that Massachusetts wetlands protection and restoration efforts can be improved by considering wetlands as essential components of watershed systems rather than as isolated landscape features. With the assistance of the Army Corps of Engineers, New England Division, WRBP developed a watershed-based wetlands restoration site identification framework. The process involves evaluating watershed functional deficits relating to water quality, flood storage, and fish and wildlife habitat and identifying wetlands restoration sites that can help address these problems. The framework is detailed in a report issued by the Army Corps of Engineers in August 1995 entitled, "Massachusetts Wetlands Restoration Study: Site

Identification and Evaluation Report", which can be obtained from WRBP.

The results of studies conducted using the framework will be incorporated into watershed wetlands restoration plans (WWRPs). WWRPs can be prepared by any sponsor wishing to inventory and prioritize wetlands restoration sites in any watershed. Given limited resources, WWRPs were initially envisioned as a mechanism for making informed choices among many potential wetlands restoration projects within each watershed. Additionally, the process has been adopted as a means of identifying the most ecologically significant wetlands restoration sites for pilot wetlands mitigation banks. (See article on page 10.) In order to ensure that WWRPs are developed in a consistent manner and that the planning process fully involves watershed communities and anyone else with an interest, WRBP developed a draft Watershed Wetlands Restoration Planning Guidance document (WWRP Guidance). A request for comments on the draft WWRP Guidance was published in the Environmental Monitor in April 1996. Based on public comments received on the draft, the WWRP Guidance has been finalized. Copies may be obtained from WRBP.

### Five Pilot WWRPs Are Underway

To test the wetlands restoration site identification framework and the planning process, WRBP is sponsoring pilot WWRPs in five watersheds and subwatersheds: Neponset, Paskamanset, Otter, Shawsheen, and Upper Ipswich. In the process, WRBP will be refining and enhancing the site evaluation framework. While information about these watersheds and potential wetlands restoration sites is already being collected, WRBP will comply with the procedural requirements of its guidance document. The process is initiated with a notice in the Environmental Monitor. The proposed schedule for the five pilot WWRPs is as follows:

	<u>Initiate</u>	<u>Complete</u>
Neponset	7/15/96	12/1/96
Otter	7/15/96	12/1/96
Paskamanset	8/1/96	1/1/97
Ipswich	9/1/96	2/1/97

## **Otter River Wetland Restoration Planning**

The Otter River has an approximately 80-square-mile watershed in north central Massachusetts. It is part of the Millers River basin that drains west into the Connecticut River. The Otter drains parts of Winchendon, Templeton, and Gardner.

*[Continued on next page]*

With technical support from the Natural Resources Assessment Group (NRAG) at the University of Massachusetts, WRBP is preparing a WWRP for the Otter River. The plan will include general information on watershed characteristics, especially wetlands, hydric soils, and land uses. By overlaying current wetland distributions on hydric soil map units through geographic information technology, potential sites that may be suitable for wetland restoration are detected. These sites are screened against current land use. Photointerpretation techniques then are applied to identify the best candidates for follow-up field work. This phase of the project should be completed by mid-summer.

Additional work will involve identifying about a dozen reference wetlands to evaluate plant communities, soils, and functions for predominant wetland types in the watershed. Besides adding to our knowledge of Massachusetts wetlands, this information should prove useful in developing site-specific wetland restoration plans.

Stormwater impacts to wetlands in the basin are a special focus of the study. Consequently, WRBP is cooperating with DEP's Office of Watershed Management (OWM) and watershed communities. Since wetlands provide significant water quality filtration benefits, wetland restoration should be an important initiative to help improve water quality in Massachusetts. A goal of this collaboration is to integrate wetland restoration planning into the state's ongoing watershed planning process. OWM participated in selecting the pilot watersheds for the study. They will continue to assist by identifying stormwater discharges in wetlands, providing technical

assistance in evaluating and addressing water quality issues, and helping with public outreach.

In September and October, WRBP will begin to conduct local meetings to present study findings and to discuss watershed functional deficits relating to flood storage, water quality, and fish and wildlife habitat. Through this process, watershed goals for wetlands restoration will be established. Candidate sites for wetlands restoration can then be matched with community desires to improve one or more of the above functions.

## **WRBP COOPERATIVE RESTORATION PROJECTS**

### **Sagamore Marsh Restoration Project Gains Momentum**

On May 30, 1996, EOEA Secretary Trudy Coxé approved the Draft Environmental Impact Report (DEIR) submitted by the Wetlands Restoration & Banking Program for the Sagamore Marsh Restoration Project. The document also was a federal Environmental Assessment (EA) circulated jointly and concurrently by the Army Corps of Engineers.

Sagamore Marsh lies on the north side of Cape Cod at the Canal's east end in the towns of Bourne and Sandwich. A 48-inch culvert was constructed in the mid-1930s at the south end of the marsh to drain runoff from the marsh into the Canal, and a 48-inch culvert was later constructed beneath Scusset Beach Road when that road was built. The culverts do not provide sufficient tidal flushing to most of the marsh to support typical salt marsh plants. The reduction in tidal flows transformed most of the salt marsh into a predominantly fresh-brackish marsh system dominated by *Phragmites australis* (common reed).

The DEIR/EA studied several alternative culvert, channel, and tidegate configurations and evaluated their cost effectiveness and whether they would cause any adverse environmental impacts. The report recommends a plan consisting of: 1) replacing existing culverts under

the two roads with 6-foot high by 12-foot wide culverts, 2) installing electric sluiceways for primary control and stop logs for backup control, 3) deepening the man-made channel for its 1,200 foot length to remove siltation and maintain channel slope, and 4) widening the man-made channel from 4 feet to 12 feet. The total project cost is approximately \$1.4 million. The state is responsible for 25% of this cost, or \$350,000.

Hydraulic and groundwater analyses determined that this alternative would not cause flooding of adjacent houses and yards, would not affect the performance of adjacent septic systems, would not impact the salinity of nearby water supply wells, and would not impact navigation in the Cape Cod Canal. During the study, *[Continued on next page.]*

a population of four-toed salamanders, a state-listed species, was discovered within the project area. This project alternative can be designed and managed to avoid impacts to that population.

The project is expected to restore 50 acres of salt marsh directly with the potential for up to 20 additional acres of restoration through open marsh water management (OMWM) in the future. OMWM involves restoring the microtopography of the marsh surface to include channels, pools, and pannes that help flood and retain salt water within the marsh. This work may be conducted in cooperation with the Cape Cod Mosquito Control District.

EOEA Secretary Trudy Coxé has requested that the Corps proceed with the development of plans and specifications for the project which will take up to six months to complete. The last stage before construction will involve obtaining the necessary environmental permits.

facilities. The plan includes strategies for state transportation agencies and local DPWs to prevent future impacts to salt marshes. See page 12 for full text of the policy.

## **SALT MARSH POLICY SIGNED**

EOEA Secretary Trudy Coxé and Executive Office of Transportation & Construction (EOTC) Secretary James Kerasiotes have signed a policy to work together to restore and protect salt marshes. The agencies are preparing a work plan to identify and restore salt marshes that have been impacted by transportation

## Farmers - Take Notice!

The Wetland Reserve Program (WRP), administered by the U.S. Department of Agriculture, Natural Resources Conservation Service (NRCS, formerly SCS) provides for the purchase of conservation easements to protect and restore wetlands that were altered and degraded by agricultural activities. Typical projects include previously drained crop, hay, and pasture land and salt marsh altered by ditching and diking to produce salt hay. Restoring hydrology at these sites can bring the wetlands back.

In 1995, WRP funded two projects in Massachusetts. Each site has been appraised and surveyed and agreements have been executed with each landowner. The two easements total 28.5 acres and are located in Hampden and Worcester Counties. Each site will employ measures to restore hydrology.

The 1996 WRP has been funded by Congress, but authority has not been granted for states to initiate project sign ups. A large portion of the 1996 appropriation has been allocated to an unfunded 1995 project backlog. NRCS will be looking for special partnership opportunities such as an easement or group of easements where other entities are willing to participate actively in the completion of special priority wetlands restoration projects. Participation may include: 1) provision of in-kind services, 2) direct contribution of funding easement payment or restoration practices, or 3) bargain price easement land value offers. Project ideas should be directed to Rick DeVergilio, NRCS, 451 West Street, Amherst, MA 01002, (413) 253-4350.

*Rich DeVergilio, NRCS*

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### REGISTRATION FORM - SECOND ANNUAL MEETING OF THE PARTNERSHIP TO RESTORE MASSACHUSETTS WETLANDS

Please register me for the meeting. I will notify WRBP immediately if I have to cancel so that someone else may attend in my place.

Name \_\_\_\_\_ Affiliation \_\_\_\_\_

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Street \_\_\_\_\_ City/Town \_\_\_\_\_ Zip \_\_\_\_\_

—

Send to: WRBP, EOE, 100 Cambridge Street - 20th Floor, Boston, MA 02202, FAX 617-292-5696

### **Saugus: Ballard Street Salt Marsh Restoration**

Salt Marsh restoration currently is being evaluated at a *Phragmites australis* (common reed) dominated, tidally restricted salt marsh in the Rumney Marsh Area of Critical Environmental Concern in Saugus. Twelve acres of salt marsh, including about two acres of salt marsh creeks with tidal flats (shellfish habitat), could be restored to full tidal flow through the existing culvert at Ballard Street at the Saugus River and the culverts at the abandoned portion of Bristow Street near Route 107 which leads to the Pines River. A plan for modifying three broken tidegates with one new standard flapper type tidegate has been proposed as a means of restoring a portion of the original salt marsh consistent with the East Saugus community needs for flood protection.

A meeting was held on September 21, 1995, at the Metropolitan District Commission's (MDC) Elliot House in Revere where 20 individuals representing 18 separate organizations and agencies agreed to pursue consideration of this unique opportunity for environmental improvement as a partnership between three levels of government, environmental groups, and the private sector.

MDC is the land custodian per an agreement between the Town of Saugus and MDC. The 60-acre parcel of land involved is all part of the former Massachusetts Highway Department right-of-way for the abandoned I-95 highway project. The parcel is bisected by the I-95 embankment which provides a unique opportunity to

restore one side to salt marsh and restore and improve the other side as a fresh marsh and flood storage area.

In order to obtain the official endorsement of the project by the Town of Saugus, studies are underway to determine if the proposed salt marsh restoration would be consistent with flood protection needs of the East Saugus community.

If the construction of the new tide gate can proceed, it is expected that additional salt marsh improvements can be made to the restored marsh by the Essex County Mosquito Control Project (ECMCP, soon to be called the Northeast Massachusetts Mosquito Control and Wetland Management District). ECMCP can use their specialized equipment to improve tidal flow in the marsh by use of the Open Marsh Water Management mosquito control and marsh restoration techniques.

The Ballard Street salt marsh restoration plan fits in well with the MDC Master Plan being developed for the embankment area which would serve as a linear park and include a walking trail. This unique opportunity to combine the interests of multiple agency interests, and to provide marsh restoration and flood control, needs to be pursued immediately to protect and restore this valuable salt marsh resource.

*Ed Reiner, EPA*

### **SALT MARSH RESTORATION IN CONNECTICUT: A Case Study**

The Pine Creek project in Fairfield, Connecticut, is one of the oldest salt marsh restoration projects in New England. This project provides some useful insights into the process, benefits, and potential problems associated with salt marsh restoration in urban areas. This site represents a typical history of a New England salt marsh.

The Pine Creek system was once a vast estuarine complex of hundreds of acres of salt marsh. In 1914, 640 acres of viable salt marsh were present. The

marshes were mowed for salt hay from colonial times until the late 1950s and in this century have been ditched for mosquito control. More recently, the marshes were used as a dumping ground for municipal wastes and were partly filled for development. By 1979, only about 17 acres remained. Seasonal-use cottages surrounding the marshes had been converted to year-round residences.

Dikes were constructed to provide flood protection. [Continued on next page.]

Conventional flapper tidegates were installed on dike culverts to permit outflow of stormwater runoff from the watershed at low tide and to prevent the inflow of the tides. Over time, the plant community of the marsh changed from a mixture of short form smooth cordgrass (*Spartina alterniflora*) and salt hay (*Spartina patens*) to one dominated by seaside goldenrod (*Solidago sempervirens*), aster (*Aster sp.*), and common reed (*Phragmites australis*). The freshwater environment has led to people planting lawns and gardens on the former salt marsh. Common reed has caught fire on several occasions. These fires have burned a lumber company, cars, porches, and fences; scorched homes; cracked windows; and melted vinyl siding. In 1975, Fairfield averaged 100 fires each year on its diked marshes at a cost of \$30,000 for fire suppression. The state abandoned mosquito control due to the lack of access through the common reed. Today the common reed marsh produces more mosquitoes than the original salt marshes.

Key objectives for salt marsh restoration of the Pine Creek marshes were to restore tidal flow and to provide flood protection. The original plan for salt marsh restoration called for constructing a peripheral dike along the upland edge of the marsh to prevent flooding of adjacent properties. This proved infeasible due to the need for acquiring easements from many unsupportive landowners and high construction costs. Instead, the town opted for installing a self-regulating tide gate.

In 1980, tide gates and the dikes nearest the creek mouth to Long Island Sound were removed and a new 2500-foot dike was built around the lower marsh to maintain existing flood protection. The cost for this effort was \$250,000. This restored tidal flow to a 10-acre lagoon and 25 acres of degraded salt marsh. The town also

removed sediment, refuse, and debris from obstructed culverts, bridges, and channels. This has become an annual maintenance operation for the town. A rotary ditcher was used to clean ditches that bred mosquitoes and open marsh water management techniques for mosquito control were put into practice.

From 1980-86, the town of Fairfield installed self-regulating tide gates that were designed and patented by its Conservation Director, Thomas Steinke. These gates eliminated the highest tides from entering the marshes, while allowing sufficient tidal exchange to further salt marsh restoration. In addition to the improved tidal flow, the marshes were burned each year around the 4th of July. This annual burn could be done only for the first four years. After that, restoration had progressed to the point where there was not enough *Phragmites* remaining for such a burn.

To track the success of the project for reducing *Phragmites* and increasing the abundance of salt marsh plant species, a monitoring program was designed. It was expected that, with increased salinity, the height of common reed would drop significantly each year. As this happens, salt marsh vegetation should re-establish in affected areas. To measure the changes in the height of *Phragmites*, several height gauges were installed prior to restoring tidal flow to upper marshes. Each year the town inspects the study sites and marks the current height of *Phragmites* by painting a line on the stakes (height gauges) and measures the density of stems per square meter.

The combined effects of burning and the restoration of tidal exchange caused a significant reduction in the height of *Phragmites* during the first four growing seasons. Each year marked a 50% reduction in the previous year's height, going from 12 feet to less than 4 feet in just four growing seasons. Elimination of *Phragmites* is expected between years 10 and 12. Stem density has been reduced from several hundred to about 20 per square meter.

Increased tidal action resulted in salt kills of lawns and gardens planted in former salt marsh by adjacent property owners. One homeowner complained of basement flooding, but this home has a long history of such problems. Flooding occurs in winter due to the combination of heavy rains, high groundwater, and high tides at this season. This problem was resolved by closing tide gates during winter high water period, reopening them in March, and keeping them open until October. The town is monitoring the effect of this remedy and will help homeowners if basement flooding problems continue.

Another part of the project that has probably aided the *[Continued on next page.]*

recovery of this salt marsh is the elimination of upland runoff from roads. This runoff is now piped through storm drains into stormwater detention basins.

After 15 years the restoration is still not complete; it takes time to undo past abuses. Yet, the recovery is moving in the right direction. The Pine Creek salt marshes are once again salty and being used by estuarine organisms that are free to move in and out of the area with the tides. In the not too distant future, we may be saying this about the Sagamore Marsh and other tidally restricted marshes along the Massachusetts coast.

(Note: This article was prepared from materials provided by Thomas Steinke, Conservation Director, Conservation Department, Fairfield, Connecticut, especially "Restoration of degraded salt marshes in Pine Creek, Fairfield, Connecticut".)

## **NATURAL RESOURCES DAMAGES AND WETLANDS RESTORATION**

Wetlands often are impacted by the release of hazardous materials into the environment. At Superfund sites, the Commonwealth and the federal government, acting as trustees of the public's interest in aquatic resources, may win "natural resources damages" awards to restore, replace, or acquire equivalent resources on behalf of the public. Following are two Superfund sites where WRBP is engaged in wetlands restoration activities.

### **Charles George Landfill, Tyngsborough**

The United States and the Commonwealth of Massachusetts filed complaints in federal court in 1985 and 1986 to recover damages for destruction and loss of natural resources resulting from releases of hazardous substances into the environment in and around the Charles George Landfill Superfund Site in Tyngsborough. Under a consent decree, a total of \$1,353,440 in natural resources damages was awarded - \$918,900 to the Commonwealth, \$299,916 to the Department of Interior, and \$134,440 to the National Oceanic and Atmospheric Administration. The funds may be used to restore, replace, or acquire the equivalent of natural resources affected by hazardous substances released from the site, especially wetlands.

The three agencies have agreed to set up a Trustee Council to jointly manage their collective damages funds. Because the Council will focus its efforts largely on restoring wetlands in and near the site, Christy Foote-Smith of WRBP has been designated Trustee Representative for the Commonwealth. The Council will begin to meet soon to identify appropriate projects.

### **New Bedford Harbor**

A Trustee Council also was established to coordinate the expenditure of natural resources damages funds awarded for the injuries to public resources resulting from releases of hazardous substances, including polychlorinated biphenyls (PCBs), into the New Bedford Harbor environment. The Harbor contains approximately 6 square miles of open water, tidal creeks, and salt marshes. Contamination resulted from the release of hazardous materials by electronics manufacturers between the late 1940s and the late 1970s



when EPA banned the use of PCBs. These industries discharged PCBs directly into the Acushnet River estuary and Buzzards Bay. PCBs are considered to be human carcinogens and can have adverse effects on natural resources, especially fish, birds, and higher mammals. Eventually, a federal court awarded funds to clean up the harbor and restore natural resources.

The Trustees have made an initial selection of projects, including three relating to wetlands restoration: 1) Nonquit salt marsh restoration in Dartmouth; 2) Padanaram salt marsh restoration in Dartmouth; and 3) Wetlands Restoration Planning and Implementation in Acushnet, Dartmouth, Fairhaven, and New Bedford to be conducted by WRBP. WRBP was awarded \$35,000 by the Trustees to evaluate existing and former wetland sites and, with public involvement, develop a wetlands restoration plan for the area. WRBP expects to begin plan development this fall.

## **FUNDING HIGHLIGHTS**

### **Coastal Pollution Remediation Program**

Massachusetts Coastal Zone Management (MCZM) has announced the availability of grants through the Coastal Pollution Remediation (CPR) Program. The CPR Program was established to provide communities in the Massachusetts Coastal Watershed (over 200 municipalities in Eastern Massachusetts) with funds for the remediation of identified transportation-related nonpoint pollution problems, specifically stormwater runoff from roadways and holding-tank discharges from recreational vessels. The goal of the program is to reduce localized pollution sources which are degrading water quality and impacting natural resources by implementing cost effective management approaches. Such approaches may include wetlands restoration projects. Municipal agencies are eligible applicants. The program will allocate up to \$4 million over five years. In 1995, \$200,000 was awarded to seven municipalities in grants ranging between \$10,000 and \$53,000. The deadline for applications is Friday, August 2, 1996, at 5:00 PM. For further information call Steve Barrett, CPR Grants Coordinator, at 617-727-9530 x413.

### **U. S. Army Corps of Engineers New England Division**

The Corps of Engineers, New England Division, is a multi-disciplinary federal organization that has the primary mission of meeting the water resources needs of the six-state New England region. These needs have been in the areas of flood damage reduction, flood plain information and management, navigation, shore protection, water supply, streambank protection, recreation, fish and wildlife resources conservation, environmental restoration and environmental protection, as well as technical assistance in other water resources areas. The following describes some of the ongoing efforts of the New England Division to address federal water resource priorities. All of these efforts represent partnership undertakings, with each having a local (non-federal) cost-sharing sponsor.

The New England region has been impacted extensively by the development of its water resources to meet the needs of a growing population. The coastal zone, in particular, is densely populated with this trend projected to continue into the 21st century. Infrastructure developments since the turn of the century (e.g., transportation corridors, navigation features and flood control structures) have contributed to systematic changes in the ecological productivity of New England, many of which were unforeseen and until recently, were not even noticed.

One such change, the reduction of saline tidal exchange in coastal New England marshes, has allowed soils to lose their salinity over the numerous decades of human impacts. The result is a change in the flora and a shift in the fauna as monospecific stands of common reed dominate these formerly productive wetlands. Many sites in New England are now very low in ecological value because of the loss of the salt grasses. The larger marshes (many several hundred acres in size) and anadromous fish impasses, along with the thousands of smaller sites, need to be examined and ranked as to their ecological restoration priorities.

The Northeast Regional Implementation Team of the Coastal America partnership several years ago defined

the most important ecological restoration priorities in New England as being the restoration of saline tidal flow into coastal salt marshes and the restoration of anadromous fish migration to historic spawning grounds. These two efforts are focused on species of national priority. Many species, particularly anadromous fish, are dependent on wetlands to complete their life cycles. Accordingly, wetlands restoration efforts are considered a national economic development priority.

The following is a listing of the various authorities and applicable areas of the environmental restoration programs:

**Section 1135, Water Resources Development Act (WRDA), 1986:** Funds modifications of Corps of Engineers structures (dams, canals, seawalls) or operations (e.g., dredging) to improve fish and wildlife resources. Requires 25% cost share from a local sponsor.

**Section 312(A), WRDA, 1990:** Funds dredging of contaminated sediments associated with Corps projects.  
*[Continued on next page.]*

Requires 25% cost share.

**Section 204, WRDA, 1992:** Funds use of dredged material for the creation of wetlands and other ecologic features. Requires 25% cost share.

**Section 22, WRDA, 1974, Planning Assistance to States:** Allows the Corps to assist states in any water resource study. States can sponsor studies on behalf of municipalities. Requires a 50% cost share. These studies often are the first step toward implementing a larger Corps effort under other authorities.

The following are examples of applications of these programs within the Commonwealth of Massachusetts:

Resolution to Restore Massachusetts Wetlands: On June 2, 1995, the Corps and the EOEA Wetlands Restoration & Banking Program hosted a Coastal America press event to sign an interagency agreement to restore the degraded wetland habitats in Massachusetts.

Congressman Studds presided as Senior Executive Service members of the Coastal America partner agencies signed this commitment, as did EOEA and the Massachusetts Executive Office of Transportation & Construction (EOTC).

Sagamore Marsh Restoration: An excellent example of the application of New England Division's habitat restoration expertise is the recent effort to restore ecological productivity to the salt marsh near Scusset Beach in Sandwich and Bourne at the Cape Cod Canal property of the Corps. (See article on page 3.)

Cape Cod MA Salt Marshes: Corps Planning Assistance to States funding is being matched by funds provided by EOTC to examine the tidal hydrology of six Cape Cod salt marshes. Those that are found to be tidally restricted will be restored by the state as the routine transportation corridor maintenance occurs. (See Fall 1995 Newsletter.)

Blackstone River: The National Park Service has the lead in coordinating water resource planning for the Blackstone River National Heritage Corridor. The impediments to anadromous fisheries migration, as well as contaminated sediments and high hazard dams, presents significant opportunities for wetlands and waterfowl habitat enhancement. The Corps has conducted a preliminary (Section 22) study of potential restoration initiatives, with Fish & Wildlife Service providing fishway conceptual designs and EPA providing their ongoing contaminant analyses and technical support. A general investigation (GI) study has been approved by the Corps and funding was included in the President's FY-96 budget.

In the future, significant ecological restoration projects may play a key role in providing continued sustainable development of Massachusetts water resources.

*Bill Hubbard, Army Corps of Engineers*

*[For more information about Army Corps programs, call Bill Hubbard at (617) 647-8552]*

## PHRAGMITES WORK GROUP

Common reed (*Phragmites australis*) has become an invasive species. Although part of the native New England flora, it appears to have spread rapidly since the 1950s. It has replaced many other wetland communities, especially along the coast. Consequently, such sites are excellent candidates for wetland restoration.

In fall 1995, in an effort to examine issues related to controlling the spread of common reed, WRBP established a Phragmites Advisory Group. The group is comprised of individuals from state and federal agencies, local governments, nonprofit organizations, and private industry. Members have experience dealing with *Phragmites* control or otherwise have an interest in the issue.

Over the past several months, the group has met to review drafts of a report on controlling common reed prepared by WRBP. The report will not be an exhaustive treatment of this topic, but will provide an overview of the ecology of the plant discussing current [Continued on next page.]

problems with the species, causes for its invasion, and methods for its control. Regulatory concerns and case studies also will be presented in the final report. In addition, WRBP is attempting to identify places where *Phragmites* is known to be a problem. A questionnaire has been sent out to all conservation commissions and watershed associations asking for information on the location of significant stands of *Phragmites*. If you have knowledge of the whereabouts of significant stands of common reed, or can verify that there are no significant stands in your community, please return the form on page 13 of this newsletter. This information will be included in the final Phragmites control report. This is the state's first inventory of significant common reed stands and we would like it to be as complete as possible. Therefore, we are encouraging everyone to participate. For additional information, contact Ralph

Tiner at (617) 292-5824.

## PILOT WETLANDS BANK PROJECTS SOUGHT

During 1994 and 1995, WRBP, with the help of the Wetlands Banking Advisory Committee (AC), explored the potential for wetlands banking to improve mitigation success in Massachusetts. WRBP and the AC concluded that, while banking had potential, direct experience with banking is needed to draw definitive conclusions. To gain experience with banking, WRBP has initiated a Pilot Wetlands Banking Project. WRBP has issued a request for proposals (RFP) for a limited number of pilot wetlands bank projects. Pilot bank sites must be selected based on watershed considerations and must comply with other requirements intended to safeguard current wetlands protection rules. The deadline for proposals is July 19, 1996. Pilot projects will be announced in September. WRBP will work with affected conservation commissions and others to ensure that all concerns are adequately addressed in regards to these projects.

In addition, WRBP is conducting a Mitigation Research Project in order to compare wetlands banking to other approaches to mitigation improvement. The project will evaluate past replication projects and explore ways in which these might be improved.

WRBP has entered into a contract with the University of Massachusetts in Amherst to receive assistance in carrying out these projects. UMass has assigned Dr. Stephen Brown, a recent doctoral graduate of Cornell University with expertise in wetlands restoration, to work directly with WRBP. For questions about the projects, call Stephen Brown at (617) 292-5986.

## READINGS IN WETLANDS RESTORATION

The following journals provide numerous articles about wetland restoration:

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Restoration & Management Notes published quarterly by the University of Wisconsin Press. Subscriptions \$22 for individuals; \$60 for institutions. Contact Journal Division, 114 N. Murray Street, Madison, WI 53715.

Wetland Journal published quarterly by Environmental Concern, Incorporated. Subscription information can be obtained from Environmental Concern, Inc., P.O. Box P, St. Michaels, MD 21663, (410) 745-9620.

Restoration Ecology published quarterly by Blackwell Science, Inc., of Cambridge, MA for the Society for Ecological Restoration. For information on special subscription rates for Society members, contact the Society at the University of Wisconsin, Madison Arboretum, 1207 Seminole Highway, Madison, WI 53711.

Natural Areas Journal published quarterly by the Natural Areas Association, P.O. Box 900, Chesterfield, MO 63006-0900.

## **CAPE COD SALT MARSH STUDY COMPLETE**

At the request of WRBP and the Executive Office of Transportation & Construction, the Army Corps of Engineers has prepared a report evaluating six potential wetlands restoration sites on Cape Cod that may have been impacted by transportation structures. (See Fall 1995 Newsletter.) The wetlands studied are in Dennis, Eastham, Harwich, Barnstable, and Brewster. Copies of the report may be obtained from Barbara Blumeris at (617) 647-8737.

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## THE PARTNERSHIP NEEDS YOUR SUPPORT!

At the initiation of WRBP, federal and state environmental and transportation agencies signed the "Resolution to Restore Massachusetts Wetlands" on June 1, 1994. The "Resolution", which commits the agencies to working together to restore the state's degraded and destroyed wetlands, formed the basis for establishing a broader "Partnership to Restore Massachusetts Wetlands". The Partnership is open to government agencies, non-profit organizations, academic institutions, businesses, and individuals - virtually anyone who wishes to support the Resolution.

### PARTNERSHIP TO RESTORE MASSACHUSETTS WETLANDS

Name \_\_\_\_\_ Title \_\_\_\_\_

Affiliation \_\_\_\_\_

Address \_\_\_\_\_

Phone\_\_ ( \_\_\_\_\_ ) \_\_\_\_\_

I/we wish to join the over 200 agencies, organizations, and individuals that support the "Resolution to Restore Massachusetts Wetlands".

Please include my (check one): \_\_agency \_\_organization \_\_self as a Partner in the Partnership to Restore Massachusetts Wetlands and make sure I'm on the mailing list to receive Massachusetts Wetlands Restoration News. I understand that this does not involve a commitment to a specific action or financial contribution. I/we will make implementation of the Action Plan a priority and will do everything within our power to restore Massachusetts wetlands.

\_\_\_Please send me a copy of the "Resolution to Restore Massachusetts Wetlands".

\_\_\_Please send me a copy of the Partnership's Action Plan.

Send this form to: Wetlands Restoration & Banking Program  
Executive Office of Environmental Affairs  
100 Cambridge Street - 20th Floor  
Boston, MA 02202  
PHONE: 617-727-9800 x213  
FAX: 617-292-5696





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